# Wireless Specialty Networks (WSN)

<table>
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<tr>
<th>Project</th>
<th>IEEE P802.15 Working Group for Wireless Specialty Networks (WSN)</th>
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<tr>
<td>Title</td>
<td><strong>802.15.4 Revision PAR Working Draft</strong></td>
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<tr>
<td>Date Submitted</td>
<td>[7 June 2022]</td>
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<tr>
<td>[Wi-SUN Alliance]</td>
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<tr>
<td>Re:</td>
<td>[May 802.15 Interim Meeting held virtually, Updates based on EC comments received]</td>
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<tr>
<td>Abstract</td>
<td>[IEEE 802.15 Working Group SC Maintenance]</td>
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<td>Purpose</td>
<td>[Draft 802.15.4 Revision PAR]</td>
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<td>Notice</td>
<td>This document has been prepared to assist the IEEE 802.15. It is offered as a basis for discussion and is not binding on the contributing individual(s) or organization(s). The material in this document is subject to change in form and content after further study. The contributor(s) reserve(s) the right to add, amend or withdraw material contained herein.</td>
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<td>Release</td>
<td>The contributor acknowledges and accepts that this contribution becomes the property of IEEE and may be made publicly available by 802.15.</td>
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Type of Project: Revision to IEEE Standard 802.15.4-2020
Project Request Type: Initiation / Revision
PAR Request Date: 
PAR Approval Date: 
PAR Expiration Date: 
PAR Status: Draft
Root Project: 802.15.4-2020

1.1 Project Number: P802.15.4
1.2 Type of Document: Standard
1.3 Life Cycle: Full Use

2.1 Project Title: Standard for Low-Rate Wireless Networks
Change to Title: IEEE Standard for Low-Rate Wireless Networks


3.1.1 Contact Information for Working Group Chair:
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3.2 Society and Committee: IEEE Computer Society/LAN/MAN Standards Committee(C/LM)

3.2.1 Contact Information for Standards Committee Chair:
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4.1 Type of Ballot: Individual
4.2 Expected Date of submission of draft to the IEEE SA for Initial Standards Committee Ballot: Jan 2024
4.3 Projected Completion Date for Submittal to RevCom: Sep 2024

5.1 Approximate number of people expected to be actively involved in the development of this project: 50
5.2 Scope of proposed standard: This standard defines the physical layer (PHY) and medium access control (MAC) sublayer specifications for low-data-rate wireless connectivity with fixed, portable, and moving devices with no battery or very limited battery consumption requirements. In addition, the standard provides modes that allow for precision ranging. PHYs are defined for devices operating in a variety of geographic regions.

5.3 Is the completion of this standard contingent upon the completion of another standard? No
5.4 Purpose: The standard provides for ultra low complexity, ultra low cost, ultra low power consumption, and low data rate wireless connectivity among inexpensive devices, especially targeting the communications requirements of what is now commonly referred to as the Internet of Things. In addition, some of the alternate PHYs provide precision ranging capability that is accurate to one meter. Multiple PHYs are defined to support a variety of frequency bands.

5.5 Need for the Project: This project is needed to incorporate accumulated maintenance changes and corrigenda (editorial and technical corrections) into the standard and to include approved amendments. The amendments include IEEE Std 802.15.4w, IEEE Std 802.15.4y, IEEE Std 802.15.4z, IEEE Std 802.15.4aa which are approved. One additional amendment is currently under development.

Change to Need for the Project: There are project errors, inconsistencies, incorporate and accumulated ambiguities maintenance in changes need and of corrigenda correction. Additionally there will technical be corrections. 6 completed amendments during into the course standard and the to revision include that approved should.
amendments. The rolled-up amendments include these IEEE are Std 802.15.4n-4w, 802.15.4q, IEEE Std 802.15.4s, 4v, IEEE Std 802.15.4t, 4y, IEEE Std 802.15.4u, 4aa which and are -002 approved. One additional amendment is currently under development.

5.6 Stakeholders for the Standard: The stakeholders include manufacturers and users of telecom, medical, environmental, energy, and consumer electronics equipment and manufacturers and users of equipment involving the use of wireless sensor and control networks.

6.1 Intellectual Property

6.1.1 Is the Standards Committee aware of any copyright permissions needed for this project? No

6.1.2 Is the Standards Committee aware of possible registration activity related to this project? Yes

Explanation: The RAC may want to review for correct and consistent usage of registry terms.

7.1 Are there other standards or projects with a similar scope? No

7.2 Is it the intent to develop this document jointly with another organization? No

8.1 Additional Explanatory Notes: 5.5 The approved amendments for inclusion are:
IEEE 802.15.4w-2020: IEEE Standard for Low-Rate Wireless Networks--Amendment 2: Low Power Wide Area Network (LPWAN) Extension to the Low-Energy Critical Infrastructure Monitoring (LECIM) Physical Layer (PHY)
IEEE Std 802.15.4z-2020: IEEE Standard for Low-Rate Wireless Networks--Amendment 1: Enhanced Ultra Wideband (UWB) Physical Layers (PHYs) and Associated Ranging Techniques, IEEE Std 802.15.4aa-2022: IEEE Standard for Low-Rate Wireless Networks Amendment 4: Higher Data Rate Extension to IEEE 802.15.4 Smart Utility Network (SUN) Frequency Shift Keying (FSK) Physical Layer (PHY)

The amendment currently under development is:
1. P802.15.4ab - Amendment: Enhanced Ultra Wide-Band (UWB) Physical Layers (PHYs) and Associated Medium Access and Control (MAC) sublayer Enhancements